TSEP Kerberos in productive operation at Rohde & Schwarz

TSEP Kerberos is a hardware and software solution to verify the LXI functionality of measurement and test devices. TSEP Kerberos combines all the necessary components and hardware elements to perform a LXI Conformance Test. TSEP Kerberos can also be used to validate existing compliant products (regression tests) in addition to the conformance test.

TSEP Kerberos hardware creates a separate network for the device-under-test (DUT) to run, therefore it is completely sealed off from interfering influences from the outside. The hardware allows for high automation of testing due to its capability to auto-disconnect the DUT, as well as its integrated router to set all necessary network protocols and settings for IPv4 and IPv6. The Kerberos environment is also able to test Clock Synchronization (IEEE 1588) due to two Precision Time Protocol (PTP) capable network adapters which simulate PTP devices in a network. Through another separate network adapter, the main configuration of the test setup is done via a software client which is available for Windows and Linux operating systems.

The Kerberos Client communicates via TCP/ IP and can auto detect all Kerberos hardware's in the network. The client is responsible to configure the device specific parameters and select which tests shall be run, however all configured device data as well as test-run setup will be stored on the hardware. Therefore it is possible to disconnect from the hardware once the test-run has been triggered and reconnect at a later time (or from another PC in the network) to look at the results. Use these configuration settings, exported from the client, to run automated tests with the console version of the client delivered with the TSEP Kerberos software.
Via the client it is also possible to print a test report at any time which has been signed by the hardware to ensure the test results authenticity.

Currently the TSEP Kerberos supports test cases for the "LXI Device Specification 2016" as well as the extended functions "VXI-11 Discovery and Identification", "LXI IPv6" and "LXI HiSLIP". The other extended functions such as "LXI Clock Synchronization", "LXI Timestamped Data" etc. will be coming soon.

TSEP Kerberos is already in productive use at Rohde & Schwarz. The test department has integrated it to run regression tests on their products. The console version of the Kerberos client is used to integrate the hardware into their test systems and run repeatedly tests on their products to ensure they comply with the LXI Standard. The results are automatically derived from the summary file which the console client produces and deposited in the test database with the corresponding PDF report files for each individual test run.